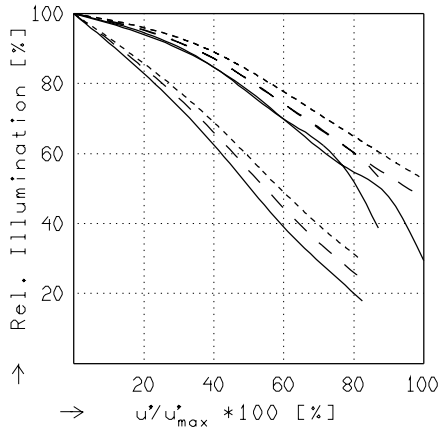
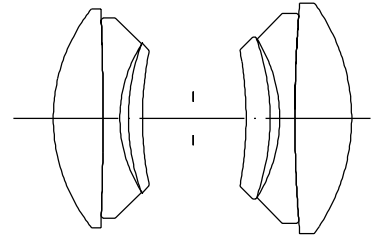


# APO-SYMMAR 5.6/180

$f' = 180.8 \text{ mm}$      $\beta_p = 1.011$   
 $s_F = -149.4 \text{ mm}$      $s_{EP} = 29.3 \text{ mm}$   
 $s_{F'} = 149.7 \text{ mm}$      $s_{AP} = -33.1 \text{ mm}$   
 $HH' = -3.5 \text{ mm}$      $\Sigma d = 58.9 \text{ mm}$

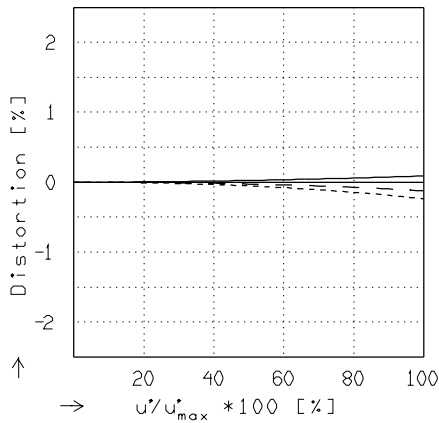


## RELATIVE ILLUMINATION

The relative illumination is shown for the given focal distances or magnifications.

$f / 5.6$      $f / 11.0$      $f / 22.0$

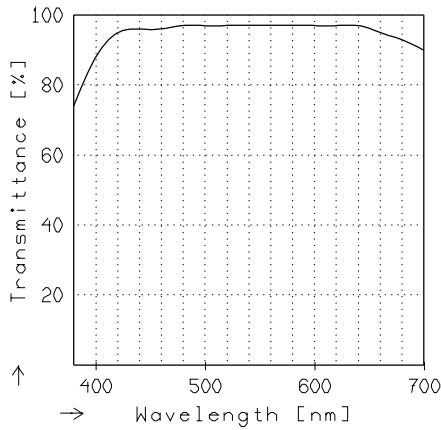
—  $\beta' = 0.0000$      $u'_{max} = 131.6$      $00' = \infty$   
 - -  $\beta' = -0.1000$      $u'_{max} = 131.3$      $00' = 2184.$   
 - · -  $\beta' = -0.2000$      $u'_{max} = 131.2$      $00' = 1298.$



## DISTORTION

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

—  $\beta' = 0.0000$      $u'_{max} = 131.6$      $00' = \infty$   
 - -  $\beta' = -0.1000$      $u'_{max} = 131.3$      $00' = 2184.$   
 - · -  $\beta' = -0.2000$      $u'_{max} = 131.2$      $00' = 1298.$



## TRANSMITTANCE

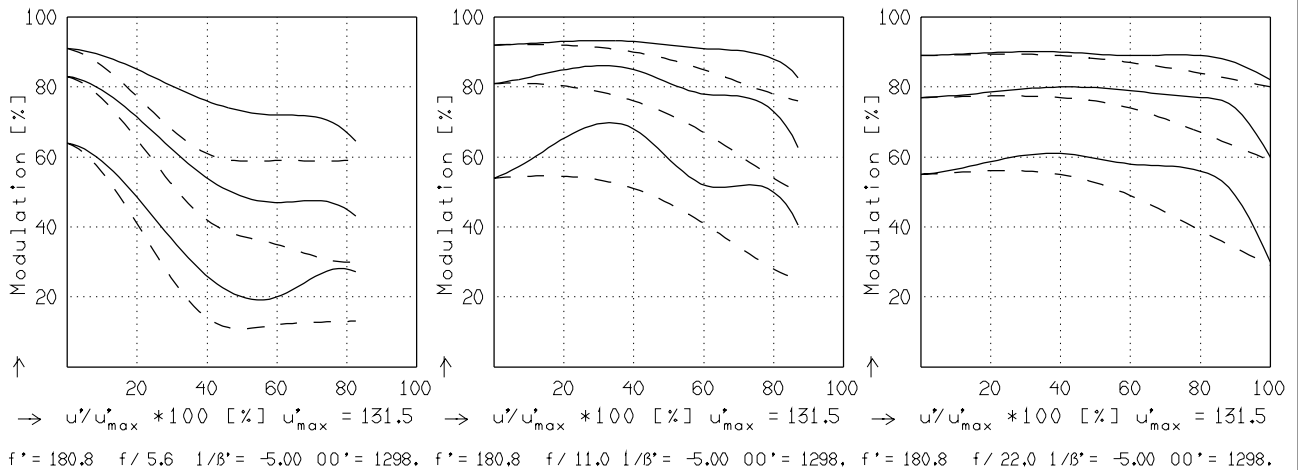
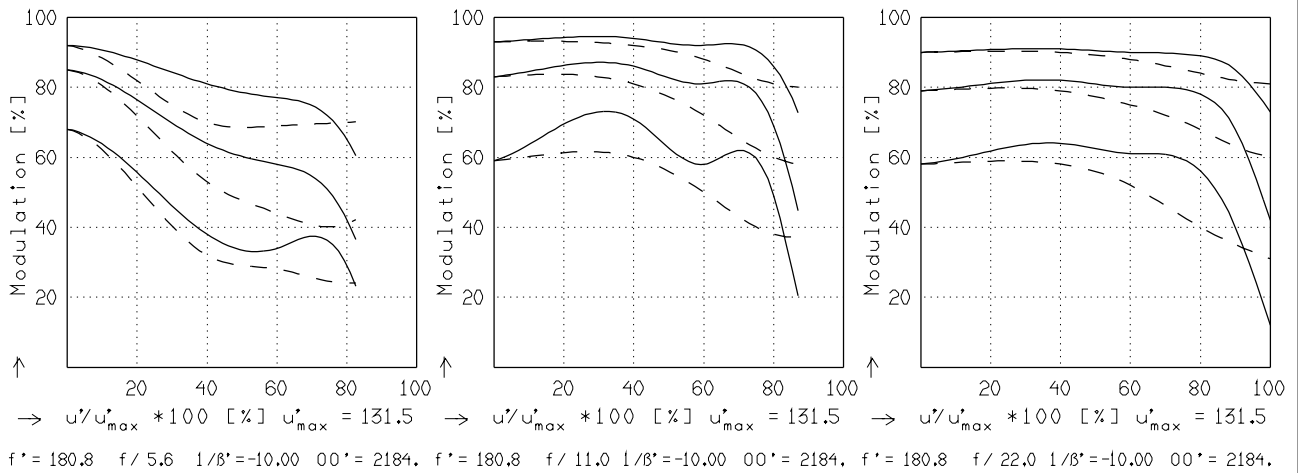
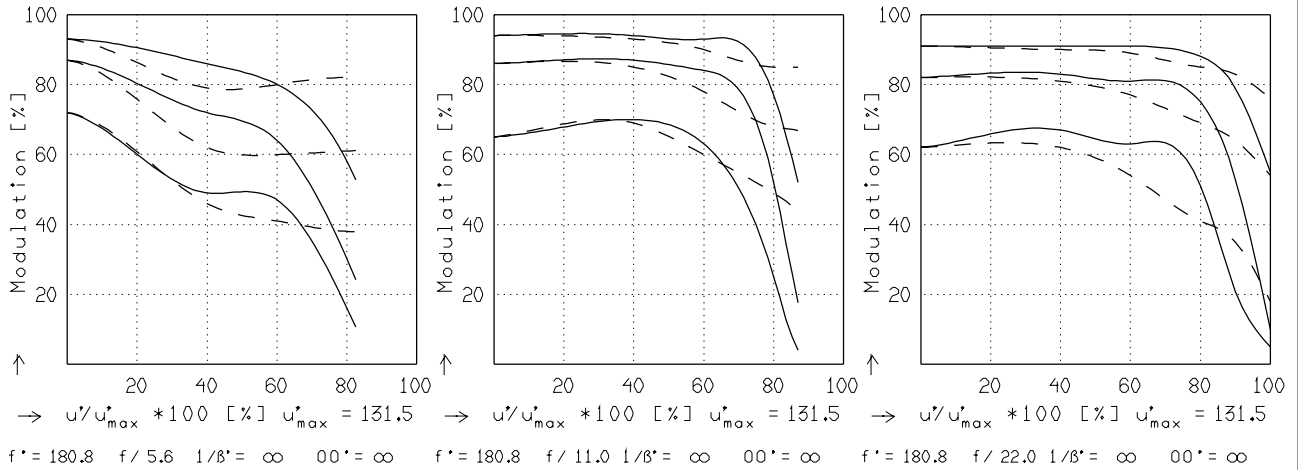
Relative spectral transmittance is shown with reference to wavelength.

**APO-SYMMAR 5.6/180**

**MODULATION** with reference to the relative image height

Wavelength $\lambda$	[nm]	546	644	588	480	436	405
Spectral weighting	[%]	24.6	18.6	22.1	12.4	15.2	7.1
Spatial frequency R	[1/mm]	5	10	20			
Image- $\emptyset$ f / 5.6	[mm]	217.0					
Image- $\emptyset$ f / 22.0	[mm]	263.0					

radial —  
tangential - -



Focusing :  $MTF_{max}$  at f / 5.6 , R = 20 1/mm,  $u'/u'_{max} = 0$

